UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 09/629,746 | 07/31/2000 | Louis Brown Abrams | D.N.7158 | 4116 |

7590 02/05/2003

SHERIDAN ROSS
1560 Broadway
Suite 1200
Denver, CO 80202-5141

| EXAMINER |
|---|
| LEE, EDMUND H |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1732 | 17 |

DATE MAILED: 02/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/629,746 | ABRAMS, LOUIS BROWN | |
| | Examiner | Art Unit | |
| | EDMUND H LEE | 1732 | |

*-- The MAILING DATE of this communication appears on th cover she t with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *21 November 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-53* is/are pending in the application.

4a) Of the above claim(s) *6,10,15,34 and 41-53* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,7-9,11-14,16-33 and 35-40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3,10,12,14
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

## DETAILED ACTION

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-41, drawn to a method for producing a molded article, classified in class 264, subclass 511.

II. Claims 42-53, drawn to a device, classified in class 425, subclass 127.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case, the apparatus as claimed can be used to practice another and materially different process such as a process that does not involve a flocked surface.

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4. If Group I is elected, then following species election is appropriate.

5. This application contains claims directed to the following patentably distinct species of the claimed invention:

a) those claims directed to fig 1.

b) those claims directed to fig 2.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is

finally held to be allowable. Currently, claims 1-5, 8, 11-13, 16-21, 22-33, and 35-40 are generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

6. During a telephone conversation with D. Swartz on 1/21/03 a provisional election was made without traverse to prosecute the invention of species b, claims 1-5, 7, 8, 9, 11-13, 14, 16-21, 22-33, and 35-40. Affirmation of this election must be made by applicant in replying to this Office action. Claims 6, 10, 15, 34, 41, and 42-53 are

withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

7. Claims 1-5, 7, 14,and 16-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The phrase "the layer of binder adhesive" (cl 1, ln 7) lacks antecedent basis in the claim.

The phrase "said adhesive binder" (cl 14, lns 1-2) lacks antecedent basis in the claim.

Clarification and/or correction is required.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 1-5, and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masui et al (USPN 5053179) in view of EP 0280296 and JP 56058824 A. In regard to claim 1, Masui et al (USPN 5053179) teach the basic claimed process including a process for producing a multi-layered molded article (figs 3-5d); providing a transfer film/skin material (figs 3-5d); positioning the transfer film against an interior wall of a mold in which the article is made (figs 3-5d); molding a substrate such that resin contacts a surface of the film to form a molded article (figs 3-5d); cooling the

mold (col 6, lns 15-18); and ejecting the molded article (col 6, lns 15-18). Masui et al also teach using a transfer film comprised of fabric or non-woven fabrics (col 5, lns 15-21). However, Masui et al does not teach using a film having a flocking layer, a release layer, and a layer of binder on an opposite side of the flocking; securing the release sheet to an interior of wall of a mold; and removing the release sheet from the transfer. EP 0280296 A2 teaches injection molding a multi-layered article having a layer of flocking thereon (abstract); and placing a film of flocking against an inner wall of a mold cavity surface and injecting a melted resin behind the flocking film (abstract). Masui et al and EP 0280296 A2 are combinable because they are analogous with respect to injection molding multi-layered articles having a decorative film thereon. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the flocking film of EP 0280296 A2 as the transfer film/skin material of the Masui et al in order to produce an aesthetically pleasing decorative article with ease and precision. JP 56058824 A teaches injection molding a multi-layered article having a layer of decoration (abstract; constitution; figs 1-6); using a decorative film having a tape layer, a decorative layer, an adhesive layer, and a layer of material compatible with the molding material (constitution; figs 1-6); securing the decorative film within the mold cavity by the tape layer (constitution; figs 1-6); injecting resin into the cavity (constitution; figs 1-6); and peeling of the tape layer from the molded article to obtain the product (constitution; figs 1-6). Masui et al and JP 56058824 A are combinable because they are analogous with respect to injection molding multi-layered articles having a decorative film thereon. Thus, it would have been obvious to one of ordinary

skill in the art at the time the invention was made to redesign the components of the transfer film of Masui et al to include the above teachings of JP 56058824 A , i.e., the tape layer, adhesive layer, and layer of compatible material, and the step of removing the tape layer, in order to ensure the position of the film of Masui et al throughout the molding process and bonding of the film of Masui et al to the injected material. In regard to claim 2, the above combination of Masui et al and JP 56058824 A teach the use of an adhesive to affix the film to the mold cavity. In regard to claim 3, Masui et al does not teach using a vacuum to affix the film to the mold cavity. However, such is notoriously well-known in the molding art. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a vacuum to fix the film of Masui et al to the mold cavity in order to reduce wearing and dirtying the mold cavity. In regard to claim 4-5, Masui et al teach preventing resin from entering interstitial spaces of the transfer film (figs 3-5d); and forming a dam around the perimeter of the transfer (figs 3-5d). In regard to claims 16-17, the combined teachings of Masui et al and JP 56058824 A teach using a layer of binder adhesive; and using a plastic film. In regard to claim 18, Masui et al does not teach using a thermosetting polymer. The use of thermosets is well-known in the molding art in order to form a strong and durable product. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a thermosetting polymer in the process of Masui et al (modified) in order to strengthen the bond of the flocking to the resin substrate.

10. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Masui et al (USPN 5053179) in view of EP 0280296 and JP 56058824 A as applied to claim 1

and further in view of Braun et al (4790306). The above teachings of Masui et al , EP 0280296 A2 , and JP 56058824 A are incorporated hereinafter. Masui et al does not teach using a dam of adhesive built up around the periphery of the transfer film. Braun et al teach injection molding a filter device having a porous filtration element therein (figs 1-7); building up a barrier of material compatible with the frame of the filter device around the periphery of the filtration element in order to maintain the porosity of the filtration element (figs 1-7). Masui et al and Braun et al are combinable because they are analogous with respect to injection molding a composite article having a porous insert. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to build up a barrier like Braun et al around the periphery of the film of Masui et al (modified) in order to ensure the integrity of the film of Masui et al.

11. Claims 8 and 11-13, 14, and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masui et al (USPN 5053179) in view of Higashiguchi (USPN 4292100). In regard to claim 8, Masui et al (USPN 5053179) teach the basic claimed process including a process for producing a multi-layered molded article (figs 3-5d); providing a transfer film/skin material (figs 3-5d); positioning the transfer film against an interior wall of a mold in which the article is made (figs 3-5d); molding a substrate such that resin contacts a surface of the film to form a molded article having a film permanently bonded to the substrate (figs 3-5d); and forming a barrier around the periphery of the film (figs 3-5d). Masui et al also teach using a transfer film comprised of fabric or non-woven fabrics (col 5, lns 15-21). However, Masui et al does not teach coating a release sheet with a release adhesive; flocking flock into the release

adhesive; and affixing the release sheet to the interior surface of a mold. Higashiguchi (USPN 4292100) teaches a method of preparing a flock transfer film (abstract; figs 1-5); coating a release sheet with a release adhesive (figs 1-5); and flocking flock into the release adhesive by imbedding a first end of the flock into the release adhesive to result in at least one pattern of flock arranged to form a predetermined design adhered to the release sheet (figs 1-5). Masui et al and Higashiguchi are combinable because they are analogous with respect to forming a decorative article. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the flocking film of Higashiguchi as the transfer film/skin material of the Masui et al in order to produce an aesthetically pleasing decorative article with ease and precision. In regard to claim 11, Masui et al teach injection molding molten resin into the mold (figs 3-5d). In regard to claim 12, Masui et al does not teach using two injection pressures. However, such is well-known in the molding art in order to ensure high quality composite articles. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to inject the resin of Masui et al at the claimed two pressures in order to achieve the above result. In regard to claim 13, Masui et al does not teach using a resin with a melting point lower than the release adhesive. Such is a mere obvious matter of choice dependent on the desired final product and material availability and of little patent consequence to the claimed process since it is not a manipulative feature or step of the claimed process. Further, such material is well-known in the molding art. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a resin with a melting point lower than

the release adhesive in order to ensure the integrity of the flocking. In regard to claim 14, the combination of Masui et al and Higashiguchi teach molding over an adhesive binder, and a surface being a contoured surface. In regard to claim 19, the combination of Masui et al and Higashiguchi teach a film that is a binder adhesive which adhesive holds the transfer to the article. In regard to claim 20, Masui et al does not teach a film that crosslinks with the molded article. It is well-known in the molding art to bond a preform to a shaping material by crosslinking. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use crosslinkable material in the process of Masui et al (modified) in order to strengthen the bond of the flocking to the resin substrate. In regard to claim 21, Masui et al does not teach using a thermosetting polymer as the plastic film. The use of thermosets is well-known in the molding art in order to form a strong and durable product. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a thermosetting polymer in the process of Masui et al (modified) in order to strengthen the bond of the flocking to the resin substrate.

12. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Masui et al (USPN 5053179) in view of Higashiguchi (USPN 4292100) as applied to claim 8 and further in view of Braun et al (USPN 4790306). The above teachings of Masui et al and Higashiguchi are incorporated hereinafter. Masui et al does not teach using a dam of adhesive built up around the periphery of the transfer film. Braun et al teach injection molding a filter device having a porous filtration element therein (figs 1-7); building up a barrier of material compatible with the frame of the filter device around the periphery of

the filtration element in order to maintain the porosity of the filtration element (figs 1-7). Masui et al and Braun et al are combinable because they are analogous with respect to injection molding a composite article having a porous insert. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to build up a barrier like Braun et al around the periphery of the film of Masui et al (modified) in order to ensure the integrity of the film of Masui et al.

13. Claims 22-33 and 35-40 rejected under 35 U.S.C. 103(a) as being unpatentable over JP 560855524 A in view of Abrams (WO 90/09289). In regard to claim 22, JP 560855524 A teaches the basic claimed process including a method for producing a molded article (abstract; figs 1-6); providing a decorative insert (abstract; figs 1-6); positioning the insert in a part of a mold (abstract; figs 1-6); introducing a resin into the mold after closure of the mold while the flocked surface is positioned in the closed mold (abstract; figs 1-6); and after solidification of the resin, removing a molded article comprising the insert and the solidified resin from the mold (abstract; figs 1-6). However, JP 560855524 A does not teach using a flocked surface. Abrams teaches a flock appliqué that can be applied to any type of material (pg 14, lns 29-31). JP 560855524 A and Abrams are combinable because they are analogous with respect to decorating a substrate with an insert/appliqué. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the flock appliqué of Abrams for the insert of JP 560855524 A in order to diversify the product line of JP 560855524 A. In regard to claims 23-33 and 35-40, JP 560855524 A teaches cooling the mold to cause solidification of the resin (abstract; figs 1-6)--as a note, such

is inherent in order to produce a viable product; maintaining the insert stationary in the closed mold during the introducing step (abstract; figs 1-6); using an insert comprised of a dimensionally stable sheet, a decoration; a first release adhesive attaching the decoration to the dimensionally stable sheet, and a permanent binder adhesive coating a surface of the decoration (abstract; figs 1-6); contacting the dimensionally stable sheet with a surface of the closed mold (abstract; figs 1-6); using a second release adhesive positioned on an opposite side of the dimensionally stable sheet from the first release adhesive to locate the insert in position inside the mold (abstract; figs 1-6); introducing by injection molding (abstract; figs 1-6); and removing the dimensionally stable sheet from the molded article (abstract; figs 1-6). However, JP 560855524 A does not teach using a flocked surface comprised of multiple colors of flock; using resilient flock; using a flock that is at least one of rayon, nylon, and polyester; electrostatically depositing the flock onto an adhesive-coated surface to form the flocked surface; using a flocked surface comprising an adhesive coating lower ends of the flock; maintaining the flocked surface by using a vacuum; using a flocked surface having dimensionally stable sheet, a plurality of flock fibers, a first release adhesive attaching the plurality of flock fibers to the dimensionally stable sheet, and a permanent binder adhesive coating lower ends of the plurality of flock fibers; using a first release adhesive having a melting point higher than a melting point of the resin; introducing by RIM, blow molding , rotational molding, or transfer molding; introducing a first resin at a first pressure, and a second resin at a second pressure wherein the first pressure is less than the second pressure; and using a permanent adhesive of thermal setting adhesive or water based latex. Abrams

teaches using a flocked surface comprised of multiple colors of flock (pg 12, ln 17-18); using resilient flock (pg 6, lns 27-30); using a flock that is at least one of rayon, nylon, and polyester (pg 6, lns 27-30); electrostatically depositing the flock onto an adhesive-coated surface to form the flocked surface (pg 9,lns 20-22); using a flocked surface comprising an adhesive coating lower ends of the flock (pg 6, ln 27-pg 7, ln 23); using a flocked surface having dimensionally stable sheet, a plurality of flock fibers, a first release adhesive attaching the plurality of flock fibers to the dimensionally stable sheet, and a permanent binder adhesive coating lower ends of the plurality of flock fibers (pg 6, ln 27-pg 7, ln 23); and using a permanent adhesive of thermal setting adhesive or water based latex (pg 11, ln 17-pg 12, ln 12). JP 560855524 A and Abrams are combinable because they are analogous with respect to decorating a substrate with an insert/appliqué. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the flock appliqué of Abrams for the insert of JP 560855524 A in order to diversify the product line of JP 560855524 A. In regard to maintaining the flocked surface by using a vacuum, it is well-known in the molding art to position an insert within a mold by vacuum. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to maintain the position of the flocked surface of JP 560855524 A (modified) by vacuum instead of adhesive in order to eliminate adhesive residue from forming on the mold surface. In regard to using a first release adhesive having a melting point higher than a melting point of the resin, such is well-known in the molding art in order to prevent bonding between a carrier, an insert, and a molded substrate. Thus, it would have been obvious to one of

ordinary skill in the art at the time the invention was made to use a first release adhesive with a melting point higher than a melting point of the resin in order to achieve the above result. In regard to introducing by RIM, blow molding , rotational molding, or transfer molding, such are well-known in the molding art for their ease and cost. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to redesign the apparatus of JP 560855524 A to form the article of JP 560855524 A by any of the claimed introducing methods in order to minimize production costs without compromising quality. In regard to introducing a first resin at a first pressure, and a second resin at a second pressure wherein the first pressure is less than the second pressure, such is well-known in the molding art in order to prevent damage to an insert or preform. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to introduce a first resin at a first pressure into the mold of JP 560855524 A, and a second resin at a second pressure into the mold of JP 560855524 A, wherein the first pressure is less than the second pressure, in order to prevent damage to the flocked surface of JP 560855524 A (modified).

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Duffy (USPN 5909021) teaches injecting a first resin at a first pressure and then injecting a second resin at a second pressure wherein the first pressure is less than the second pressure. Both JP 58062027 A and JP 59106944 A teaches maintaining the position of flocked surface on a molding surface by vacuum.

15. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Examiner Edmund Lee whose telephone number is (703) 305-4019. The examiner can normally be reached on Monday-Wednesday and Friday from 8:00 AM to 4:00 PM. The fax number for Examiner Edmund Lee is (703) 872-9615

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jan H. Silbaugh, can be reached on (703) 308-3829.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.

EHL

January 27, 2003

Edmund Lee 1/27/03

Patent Examiner, AU 1732